

CLAIMS

What is claimed is:

1. An intraluminal stent comprising:
a metallic reinforcing component; and
a biodegradable polymeric material covering at least a portion of the metallic reinforcing component;
the metallic reinforcing component providing structural reinforcement for the stent but being insufficient, in the absence of the biodegradable polymeric material, to provide a stent capable of maintaining patency of a lumen upon implantation of the stent into the lumen.
2. The intraluminal stent of claim 1, wherein the metallic reinforcing component comprises a biocompatible metal selected from the group consisting of stainless steel, titanium alloys, tantalum alloys, nickel alloys, cobalt alloys and precious metals.
3. The intraluminal stent of claim 2, wherein the biocompatible metal comprises a shape memory alloy.
4. The intraluminal stent of claim 3, wherein the shape memory alloy comprises a nickel-titanium alloy.
5. The intraluminal stent of claim 1, wherein the biodegradable polymeric material comprises a biocompatible biodegradable polymer selected from the group consisting of polylactic acid, polyglycolic acid, polycaprolactone, polyorthoesters, and trimethylene carbonate polymers, as well as copolymers and mixtures thereof.
6. The intraluminal stent of claim 1, wherein the stent is selected from the group consisting of endovascular, biliary, tracheal, gastrointestinal, urethral, ureteral and esophageal stents.
7. The intraluminal stent of claim 6, wherein the stent is balloon-expandable or self-expandable.

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8. The intraluminal stent of claim 6, wherein the endovascular stent is a coronary stent.

9. The intraluminal stent of claim 1, wherein the metallic reinforcing component comprises a plurality of apertures.

10. The intraluminal stent of claim 9, wherein the metallic reinforcing component is selected from the group consisting of an open-mesh network comprising one or more knitted, woven or braided metallic filaments; an interconnected network of articulable segments; a coiled or helical structure comprising one or more metallic filaments; and, a patterned tubular metallic sheet.

11. The intraluminal stent of claim 10, wherein said metallic filaments comprise two or more different metals.

12. The intraluminal stent of claim 10, wherein the patterned tubular metallic sheet is formed by laser cutting or chemical etching of a metallic sheet.

13. The intraluminal stent of claim 9, wherein the biodegradable polymeric material covering at least a portion of the metallic reinforcing component comprises a biodegradable polymeric material coating layer.

14. The intraluminal stent of claim 13, wherein said biodegradable polymeric material coating layer comprises one or more therapeutic and/or diagnostic agents.

15. The intraluminal stent of claim 9, wherein the biodegradable polymeric material covering at least a portion of the metallic reinforcing component comprises two or more biodegradable polymeric material coating layers.

16. The intraluminal stent of claim 15, wherein one or more of the biodegradable polymeric material coating layers comprise one or more therapeutic and/or diagnostic agents.

17. The intraluminal stent of claim 16, wherein different therapeutic agents or combinations of therapeutic agents are present in two of more of said biodegradable polymeric material coating layers.

18. The intraluminal stent of claim 15, wherein at least two of said biodegradable polymeric material coating layers have different rates of biodegradation.

19. The intraluminal stent of claim 16, wherein at least two of said biodegradable polymeric material coating layers have different rates of release of therapeutic agent therefrom.

20. The intraluminal stent of claim 9, wherein the metallic reinforcing component and biodegradable polymeric material are provided within a laminated structure.

21. The intraluminal stent of claim 20, wherein the metallic reinforcing component is disposed between two or more layers of the biodegradable polymeric material.

22. The intraluminal stent of claim 21, wherein the two or more layers comprise different biodegradable polymeric materials.

23. The intraluminal stent of claim 21, wherein at least one of said two or more layers comprises one or more therapeutic and/or diagnostic agents.

24. The intraluminal stent of claim 23, wherein different therapeutic agents or combinations of therapeutic agents are present in two or more of said layers.

25. The intraluminal stent of claim 21, wherein at least two of said layers have different rates of biodegradation.

26. The intraluminal stent of claim 23, wherein at least two of said layers have different rates of release of therapeutic agent therefrom.

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27. The intraluminal stent of claim 1, wherein a surface of the metallic reinforcing component is passivated to enhance its biocompatibility.

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